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BIRCH STEWART KOLASCH & BIRCH
PO BOX 747
FALLS CHURCH, VA 22040-0747

EXAMINER	
PULLIAS, JESSE SCOTT	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary	Application No.	Applicant(s)	
	10/587,514	UCHIMOTO ET AL.	
	Examiner	Art Unit	
	JESSE S. PULLIAS	2626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 October 2010*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This office action is in response to the correspondence filed 10/22/10 regarding application 10/587514, in which claims 1, 8, 21, and 22 were amended and new claims 23 and 24 were added. Claims 1-24 are pending in the application and have been considered.

Response to Arguments

2. The arguments on pages 18-31 in the Remarks were submitted in previous responses and have already been addressed in the advisory action 02/23/10, except for the argument on page 30 to traverse the advisory action, which was addressed in the non-final rejection 06/22/10, pages 2-3.

3. On page 31, Applicant argues:

> Furthermore, as amended, the independent claims recite that a target-language keyword-related phrase is stored as a pair of keyword-related phrases in the source language and in the target language. Applicants respectfully submit that this feature is not found in the applied art. In this regard, to the extent that the Office Action relies upon Fig. 19a of Appleby, it is without merit because the Office Action clearly admits that there is no explicit disclosure of this feature (by stating that Appleby only "implies" disclosure of such a feature, and by providing no factual evidence that Appleby's Fig. 19 discloses this feature not just possibly and not just probably but necessarily), which is the case law established standard for establishing an inherent disclosure. Inherency may not be established by probabilities or possibilities. What is *inherent*, must necessarily be disclosed. *In re Oelrich*, 666 F.2d 578, 581, 212 USPQ 323, 326 (CCPA 1981) and *In re Rijckaert*, 9 F.3d 1531, 1534, 28 USPQ2d 1955, 1957 (Fed. Cir. 1993).

The statement in the Office Action 06/22/10 which Applicant appears to be referring to is reproduced below:

> Appleby discloses phrases are stored as a pair of keyword-related phrases in the source language and in the target language in the form of a keyword-related phrase table in a storage means **(Fig 19a, [0176]**, and **[0042-43]** imply the use of tables stored in memory), and a text candidate generation means performs dependency relationships

In response, it is unclear why the statement in the Office Action that the above sections of Appleby "*imply the use of tables* stored in memory" is considered an admission that "there is no explicit disclosure of..." "*a target-language keyword-related phrase is stored as a pair of keyword-related phrases in the source language and in the target language*". At most, the statement in the office action admits that Appleby does not explicitly or inherently disclose *the use of tables*, but rather that the *use of tables* is implied. Fig 19a of Appleby shows bilingual phrases mapped together, and [0042-43] describe a translation program with a "translation data store 232" which stores the relationships established by mapping program 222. In view of this evidence, it is maintained that Appleby explicitly discloses "*a target-language keyword-related phrase is stored as a pair of keyword-related phrases in the source language and in the target language*". Applicant argues that Appleby does not meet the criteria for inherency, but it is noted that inherency is not relied upon in the claim rejections, which are rejections under 35 U.S.C. 103(a) based on prima facie obviousness. To establish prima facie obviousness, all the claim limitations must be taught or suggested by the prior art. The Office action stated that Fig 19a, [0176], and [0042-43] imply (i.e. suggest) the use of

tables stored in memory, and does not contend that their use is inherent. Therefore, it is maintained that the requirements for prima facie obviousness are met by the disclosure of Appleby, and the rejection under 35 U.S.C. 103(a) is proper.

4. On pages 32-33, Applicant argues that Appleby does not discloses that one or more target-language text sentence candidates are generated by using a target language keyword-related phrase generation model and a language model by assuming dependency relationships of two or more pairs of keyword related phrases. The examiner respectfully disagrees.

Appleby discloses generating one or more target language text sentence candidates by using a language keyword-related phrase generation model and a language model by assuming dependency relationships of two or more pairs of keyword related phrases because in [0169], and [0171] Appleby discloses generating a target dependency structure corresponding to each translation unit in an assembled dependency structure, which was matched from among candidates, see [0168]. Appleby's use of dependency structures may be considered "using... a language model" because they model the structural dependence of words within e.g. a phrase based on the particular language. The phrases are "keyword related", e.g. because Appleby describes the source head in a phrase as "car" with left daughters "the" and "white", see [0176] and Fig 19.

5. On page 33, Applicant further argues:

> **In fact, it appears to Applicants that, in paragraph [0169], Appleby admits that the "transfer between the source and target languages takes place at the level of the dependency structure, and is therefore relatively unaffected by the vagaries of word placement in source and/or target languages (emphasis added)."**
>
> This is to be contrasted with Applicants' claimed invention which uses a target language keyword-related phrase generation model and a language model by assuming dependency relationships of two or more pairs of keyword related phrases uses language, which definitely does take into account word placement in source and/or target language.

In response, it is unclear where the particular language recited in the claim of "using a target language keyword-related phrase generation model and a language model by assuming dependency relationships of two or more pairs of keyword related phrases" necessarily requires taking into account word placement in source and/or target language. For example, in the phrases "the white cat" and "the cat is white", assuming a dependency relationship between the words "white" and "cat" does not necessarily require taking into account word placement.

6. In response to the assertion that no combination of Wakita and Appleby can possible render obvious the claimed invention, and that one of ordinary skill in the art would have no proper incentive to modify the Wakita-Appleby reference combination to input less than complete sentences to obtain accurate translation of those input sentences, the examiner respectfully disagrees for the reasons already explained in the advisory action 02/23/10 and the reasons below in the present office action.

7. The argument on pages 35 regarding claims 19 and 20 was already raised in the Remarks 01/29/10, page 23, and already responded to in the Advisory action 02/23/10.

8. The remaining arguments are the same or similar to those already addressed above and in the Advisory action 02/23/10, and are not persuasive for the same or similar reasons.

Claim Objections

9. Claim 21 is objected to because of the following informalities: In line 20, should "indication" be "indicating? Appropriate correction is required.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

11. Claims 1, 5-8, 12-14, and 19-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wakita et al. (2002/0010573) in view of Appleby (2005/0171757), in further view of Chan et al. (6,604,101).

With respect to claims 1 and 8, Wakita discloses a method and apparatus for generating a text sentence in a target language different from a source language (**Abstract**), based on one or more words in the source language input as keywords

(Abstract), the method comprising: an input step in which the one or more keywords in the source language are input via an input means **(Fig 1,** key word extracting means 5 extracts keywords which are input to sentence example selecting means 7), the one or more keywords being a segment of the full text sentence in the source sentence **(Fig 7,** input sentence and extracted keywords); a sentence pair extraction step in which a sentence pair extraction means extracts one or more sentence pairs each including at least one of the keywords from a parallel corpus database **(Fig 2a)** including partial correspondence information indicating correspondence between a word/phrase in the source language and a word/phrase in the target language in each sentence pair **([0119],** key words are paired in the example DB3); a keyword-related phrase storage step in which a target-language keyword-related phrase corresponding to each source-language keyword-related phrase is detected from the partial correspondence information of each sentence pair **([0126-8],** keywords are combined to make phrases, which are found in the examples**,** also **Fig 5b)**; a text sentence candidate generation step **(Fig 1,** output sentence generating means 8) generates one or more target-language text sentence candidates **(Fig 8,** output sentence generating means 66); and an output step in which at least one text sentence candidate is output from an output means corresponding to the full text sentence in the source language **(Fig 8,** text output**)**.

Wakita does not specifically mention the phrases are stored as a pair of keyword-related phrases in the source language and in the target language in the form of a keyword-related phrase table in a storage means, and a text candidate generation

means performs dependency relationships of each keyword-related phrase in the source language and in the target language of the pair of keyword-related phrases assumes dependency relationships among keyword-related phrases in the target language described in the keyword-related phrase table and generating one or more target language text sentence candidates by using a language keyword-related phrase generation model and a language model by assuming dependency relationships of two or more pairs of the keyword related phrases.

Appleby discloses phrases are stored as a pair of keyword-related phrases in the source language and in the target language in the form of a keyword-related phrase table in a storage means **(Fig 19a, [0176],** and **[0042-43]** imply the use of tables stored in memory), and a text candidate generation means performs dependency relationships of each keyword-related phrase in the source language and in the target language of the pair of keyword-related phrases and assumes dependency relationships among keyword-related phrases in the target language described in the keyword-related phrase table, and generating one or more target language text sentence candidates by using a language keyword-related phrase generation model and a language model by assuming dependency relationships of two or more pairs of keyword related phrases **([0169], [0171])**.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Wakita such that the phrases are stored as a pair of keyword-related phrases in the source language and in the target language in the form of a keyword-related phrase table in a storage means, and a text candidate generation

means performs dependency relationships of each keyword-related phrase in the source language and in the target language of the pair of keyword-related phrases assumes dependency relationships among keyword-related phrases in the target language described in the keyword-related phrase table and generating one or more target language text sentence candidates by using a language keyword-related phrase generation model and a language model by assuming dependency relationships of two or more pairs of the keyword related phrases, as taught by Appleby, in order to require less examples for translation, since phrases are more general, as suggested by Appleby **([0011] [0005]).**

Wakita and Appleby do not specifically mention the one or more keywords in the source language are input via an input means without inputting a full text sentence in the source language.

Chan discloses an input step in which one or more keywords in the source language are input via an input means without inputting a full text sentence in the source language **(Fig 2,** query input in source language 118**).**

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Wakita such that one or more keywords in the source language are input via an input means without inputting a full text sentence in the source language, in order to dialectally standardize the keyword or query input by the user to a more commonly known or used term, which would be distinctly helpful because standardizing the word to a commonly known word insures that the target language search engine will recognize it, as noted by Chan **(Col 4 lines 22-29).**

With respect to claims 21 and 22, Wakita discloses a method and apparatus for generating a text sentence in a target language different from a source language **(Abstract)**, based on one or more words in the source language input as keywords **(Abstract)**, the method comprising:

an input step in which the one or more keywords in the source language are input via an input means **(Fig 1,** key word extracting means 5 extracts keywords which are input to sentence example selecting means 7), the one or more keywords being a segment of the full text sentence in the source sentence **(Fig 7,** input sentence and extracted keywords**)**;

a sentence pair extraction step in which a sentence pair extraction means extracts one or more sentence pairs each including at least one of the keywords from a parallel corpus database **(Fig 2a)** including partial correspondence information indicating correspondence between a word/phrase in the source language and a word/phrase in the target language in each sentence pair **([0119],** key words are paired in the example DB3**)**;

a keyword-related phrase storage step in which a target-language keyword-related phrase corresponding to each source-language keyword-related phrase is detected from the partial correspondence information of each sentence pair **([0126-8],** keywords are combined to make phrases, which are found in the examples**,** also **Fig 5b)**, where the target-language keyword-related phrase is a content word **(Fig 5b)**;

a word sequence generation rule acquisition step in which a word sequence generation rule acquisition unit searches for a pair of sentences including the content word from a parallel corpus **(Fig 2a)** and performs morphological and syntactic analysis, extracts word sequences including the content word from the pair of sentences, and acquires and stores a word sequence generation rule indicating how to generate the keyword-related phrase **(Fig 8)**;

a word generation candidate generation step in which a word sequence candidate generator generates sequence candidates of the target language included in a text sentence candidate in accordance with the word sequence generation rules **(Fig 8)**

a text sentence candidate generation step **(Fig 1,** output sentence generating means 8) generates one or more target-language text sentence candidates **(Fig 8,** output sentence generating means 66); and an output step in which at least one text sentence candidate is output from an output means corresponding to the full text sentence in the source language **(Fig 8,** text output).

Wakita does not specifically mention the phrases are stored as a pair of keyword-related phrases in the source language and in the target language in the form of a keyword-related phrase table in a storage means, and a text candidate generation means performs dependency relationships of each keyword-related phrase in the source language and in the target language of the pair of keyword-related phrases assumes dependency relationships among keyword-related phrases in the target language described in the keyword-related phrase table and generating one or more

target language text sentence candidates by using a language keyword-related phrase generation model and a language model by assuming dependency relationships of two or more pairs of the keyword related phrases.

Appleby discloses phrases are stored as a pair of keyword-related phrases in the source language and in the target language in the form of a keyword-related phrase table in a storage means **(Fig 19a, [0176],** and **[0042-43]** imply the use of tables stored in memory), and a text candidate generation means performs dependency relationships of each keyword-related phrase in the source language and in the target language of the pair of keyword-related phrases and assumes dependency relationships among keyword-related phrases in the target language described in the keyword-related phrase table, and generating one or more target language text sentence candidates by using a language keyword-related phrase generation model and a language model by assuming dependency relationships of two or more pairs of keyword related phrases **([0169], [0171])**.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Wakita such that the phrases are stored as a pair of keyword-related phrases in the source language and in the target language in the form of a keyword-related phrase table in a storage means, and a text candidate generation means performs dependency relationships of each keyword-related phrase in the source language and in the target language of the pair of keyword-related phrases assumes dependency relationships among keyword-related phrases in the target language described in the keyword-related phrase table and generating one or more

target language text sentence candidates by using a language keyword-related phrase generation model and a language model by assuming dependency relationships of two or more pairs of the keyword related phrases, in order to require less examples for translation, since phrases are more general, as suggested by Appleby **([0011] [0005]).**

Wakita and Appleby do not specifically mention the one or more keywords in the source language are input via an input means without inputting a full text sentence in the source language.

Chan discloses an input step in which one or more keywords in the source language are input via an input means without inputting a full text sentence in the source language **(Fig 2,** query input in source language 118**).**

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Wakita such that one or more keywords in the source language are input via an input means without inputting a full text sentence in the source language, in order to dialectally standardize the keyword or query input by the user to a more commonly known or used term, which would be distinctly helpful because standardizing the word to a commonly known word insures that the target language search engine will recognize it, as noted by Chan **(Col 4 lines 22-29).**

With respect to claims 5 and 12, Wakita and Appleby disclose a text sentence is generated a target language by performing the sentence pair extraction step, the keyword-related phrase storage step, and the text sentence candidate generation step

for each combination of source and target language; and in the output step, a text sentence candidate of one language is output **(See claim 1).**

Wakita and Appleby do not specifically mention two or more languages are output.

It would have been obvious to one of ordinary skill in the art at the time of the invention to use the invention of Wakita and Appleby to output two or more languages instead of one, since the translation device disclose by Appleby may be viewed as a "base device" upon which outputting two languages instead of one may be viewed as an improvement; translation from one languages to two or more was a known technique at the time of the invention; and one of ordinary skill in the art would have recognized that applying the known technique of translating into two or more languages would have predictably resulted in two or more output translations which would have improved the invention by making it useful to a multilingual audience.

With respect to claims 6 and 13, Wakita discloses a text sentence candidate generation step **(Fig 1,** output sentence generating means 8**) (Fig 7)** generates one or more target-language text sentence candidates **(Fig 8,** output sentence generating means 66**).**

Wakita does not specifically mention the text candidate generation means assumes dependency relationships among keyword-related phrases in the target language described in the keyword-related phrase table, and a source-language text candidate generation means assumes dependency relationships among keyword-

related phrases in the source language described in the keyword-related phrase table and generates one or more source-language text sentence candidate, and in the output step, at least one set of text sentences in the source and target languages is output from the output means.

Appleby discloses a text candidate generation means assumes dependency relationships among keyword-related phrases in the target language described in the keyword-related phrase table **([0045]** target dependency structure D), and a source-language text candidate generation means assumes dependency relationships among keyword-related phrases in the source language described in the keyword-related phrase table and generates one or more source-language text sentence candidate **([0045]** target dependency structure C), and in an output step, at least one set of text sentences in the source and target languages is output from the output means **(Fig 6)**.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Wakita such that the text candidate generation means assumes dependency relationships among keyword-related phrases in the target language described in the keyword-related phrase table, and a source-language text candidate generation means assumes dependency relationships among keyword-related phrases in the source language described in the keyword-related phrase table and generates one or more source-language text sentence candidate for reasons similar to those of claim 1. I would have been further obvious to modify the invention such that in the output step, at least one set of text sentences in the source and target

languages is output from the output means, in order to allow the user to confirm the correct sentence in the source language has been translated.

With respect to claim 7 and 14, Wakita does not, but Appleby discloses after the text sentence candidate generation step, an evaluation step in which an evaluation means evaluates each text sentence candidate **([0169], [0253],** translation units are evaluated to find a matching structure, a score is calculated), wherein in the output step, at least one text sentence candidate is selected based on the evaluation and the selected text sentence candidate is output **([0170], [0254],** highest scoring, the target surface structure determined from dependency structure and used to generate target sentence text **[0171]).**

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Wakita such that after the text sentence candidate generation step, an evaluation step in which an evaluation means evaluates a score for each text sentence candidate, wherein in the output step, at least one text sentence candidate with the highest score is selected based on the evaluation and the selected text sentence candidate is output, in order to make the output sentence more resistant to errors caused by ambiguous grammar, as suggested by Wakita **([0021]).**

With respect to claim 19, Wakita does not, but Appleby discloses an evaluation step in which an evaluation means evaluates a score for each text sentence candidate, wherein in the output step, at least one text sentence candidate with a score greater

than a predetermined threshold is selected based on the evaluation and the selected text sentence candidate is output **([0246-0254],** evaluate scores, selecting the highest).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Wakita to include that after the text sentence candidate generation step, an evaluation step in which an evaluation means evaluates a score for each text sentence candidate, wherein in the output step, at least one text sentence candidate with a score greater than a predetermined threshold is selected based on the evaluation and the selected text sentence candidate is output, in order to address the problem of not knowing the "correct" analysis from among the several analysis **(Appleby [0246]),** thereby improving the translation result.

With respect to claim 20, Wakita does not, but Appleby discloses an evaluation step in which an evaluation means evaluates a score for each text sentence candidate, wherein in the output step, at least one text sentence candidate with a score greater than a predetermined threshold **([0246-0254],** evaluate scores, selecting the highest), or as many text candidates with highest scores as a predetermined number N are selected based on the evaluation and the selected text sentence candidate is output.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Wakita to include that after the text sentence candidate generation step, an evaluation step in which an evaluation means evaluates a score for each text sentence candidate, wherein in the output step, at least one text sentence candidate with a score greater than a predetermined threshold, for reasons

similar to those of claim 19.

12. Claims 2 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wakita et al. (2002/0010573) in view of Appleby (2005/0171757), further view of Chan et al. (6,604,101), in further view of Fukumochi et al. (5,321,607).

With respect to claims 2 and 9, Wakita discloses after the sentence pair extraction step, one of the several competing translations is selected **(Fig 1,** sentence example selecting means selects one of examples from example database 3).

Wakita does not specifically mention discloses a keyword-related phrase storage step in which a target-language keyword-related phrase corresponding to each source-language keyword-related phrase is detected from the partial correspondence information of each sentence pair and stored in the form of a keyword-related phrase table in a storage means wherein a keyword-related phrase in the target language corresponding to the selected keyword-related phrase in the source language is described in the keyword-related phrase table.

Appleby discloses a keyword-related phrase storage step in which a target-language keyword-related phrase corresponding to each source-language keyword-related phrase is detected from the partial correspondence information of each sentence pair and stored in the form of a keyword-related phrase table in a storage means wherein a keyword-related phrase in the target language corresponding to the selected keyword-related phrase in the source language is described in the keyword-related phrase table **(Fig 19a** show translation components which are stored with

correspondence information between the source and target language phrases, see also **[0176]**).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Wakita such that a keyword-related phrase storage step in which a target-language keyword-related phrase corresponding to each source-language keyword-related phrase is detected from the partial correspondence information of each sentence pair and stored in the form of a keyword-related phrase table in a storage means wherein a keyword-related phrase in the target language corresponding to the selected keyword-related phrase in the source language is described in the keyword-related phrase table, for reasons similar to those of claim 1.

Wakita, Appleby, and Chan do not specifically mention if, in the sentence pair extraction step, two or more sentence pairs are extracted for a keyword input in the input step and if two or more different keyword-related phrases in the source language are detected from the partial correspondence information, then the detected two or more keyword-related phrases in the source language are presented to a user such that the user is allowed to select a keyword-related phrase from the presented two or more keyword-related phrases.

Fukumochi discloses a keyword-related **(Col 6 lines 31-34,** sentence is segmented into each morpheme string**)** phrase presentation step in which if, in the sentence pair extraction step, two or more sentence pairs are extracted for a keyword input in the input step **(Col 6 lines 58-59,** plurality of subtrees are extracted due to ambiguity, and **Col 7 lines 50-57,** each subtree is transformed to target language and

sentence produced for each one) and if two or more different keyword-related phrases in the source language are detected from the ambiguity **(see above)**, then the detected two or more keyword-related phrases in the source language are presented to a user such that the user is allowed to select a keyword-related phrase from the presented two or more keyword-related phrases **(Col 9 lines 63-67,** partial translated sentence candidates are generate and the user is allowed to select one**)**.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Wakita, Appleby, and Chan by including a keyword-related phrase presentation step in which if, in the sentence pair extraction step, two or more sentence pairs are extracted for a keyword input in the input step and if two or more different keyword-related phrases in the source language are detected from the partial correspondence information, then the detected two or more keyword-related phrases in the source language are presented to a user such that the user is allowed to select a keyword-related phrase from the presented two or more keyword-related phrases, wherein in the keyword-related phrase storage step, if the user selects a keyword-related phrase from the presented two or more keyword-related phrases, a keyword-related phrase in the target language corresponding to the selected keyword-related phrase in the source language is described in the keyword-related phrase table as taught by Fukumochi, in order to resolve disadvantages associated with ambiguity in an input sentence, as suggested by Fukumochi **(Col 1 lines 32-37).**

13. Claims 4 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Wakita et al. (2002/0010573) in view of Appleby (2005/0171757), further view of Chan et al. (6,604,101), in further view of Tolin et al. (5,490,061).

With respect to claims 4 and 11, Wakita, Appleby, and Chan do not specifically mention in the sentence pair extraction step, at the beginning of the step, one or more morphemes are added to or subtracted from a keyword input in the input step or a keyword input in the input step is replaced with a similar word.

Tolin discloses one or more morphemes are added to or subtracted from a keyword input in the input step or a keyword input in the input step is replaced with a similar word **(Abstract,** words are subjected to morphological word stripping, which replaces with the root word which is similar since it has the same meaning**).**

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Wakita and Appleby by in the sentence pair extraction step, at the beginning of the step, one or more morphemes are added to or subtracted from a keyword input in the input step or a keyword input in the input step is replaced with a similar word as taught by Tolin, in order to reduce database size by only having to store root words in a dictionary, as suggested by Tolin **(Title and Abstract).**

14. Claims 3, 10, and 15-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wakita et al. (2002/0010573) in view of Appleby (2005/0171757) further view of Chan et al. (6,604,101), in further view of Fukumochi et al. (5,321,607), in further view of Sata et al. (5,608,623).

With respect to claims 3 and 10, Wakita does not, but Appleby discloses each

time one keyword is input in the input step, the sentence pair extraction step and the keyword-related phrase storage step are performed **([0171],** target text generation is done by recursively traversing a target surface structure to extract the target text from the target surface head and daughter components, see also claim 1).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Wakita such that each time one keyword is input in the input step, the sentence pair extraction step and the keyword-related phrase storage step are performed, in order to provide continuous translation.

Wakita, Appleby, and Chan do not specifically mention a keyword-related phrase presentation step in which if, in the sentence pair extraction step, two or more sentence pairs are extracted for a keyword input in the input step and if two or more different keyword-related phrases in the source language are detected from the ambiguity then the detected two or more keyword-related phrases in the source language are presented to a user such that the user is allowed to select a keyword-related phrase from the presented two or more keyword-related phrases.

Fukumochi discloses a keyword-related phrase presentation step in which if, in the sentence pair extraction step, two or more sentence pairs are extracted for a keyword input in the input step and if two or more different keyword-related phrases in the source language are detected from the ambiguity then the detected two or more keyword-related phrases in the source language are presented to a user such that the user is allowed to select a keyword-related phrase from the presented two or more keyword-related phrases **(See claim 2)**.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Wakita, Appleby, and Chan by including a keyword-related phrase presentation step in which if, in the sentence pair extraction step, two or more sentence pairs are extracted for a keyword input in the input step and if two or more different keyword-related phrases in the source language are detected from the ambiguity then the detected two or more keyword-related phrases in the source language are presented to a user such that the user is allowed to select a keyword-related phrase from the presented two or more keyword-related phrases for reasons similar to those of claim 2.

Wakita, Appleby, Chan, and Fukumochi do not specifically mention a co-occurrence word extraction step in which one or more co-occurrence words which co-occur with the keyword in the sentence pair are extracted and the extracted one or more co-occurrence words are described in a co-occurrence word table.

Sata discloses a co-occurrence word extraction step in which one or more co-occurrence words which are extracted **(Abstract, lines 1-5)** and the extracted one or more co-occurrence words are described in a co-occurrence word table **(Abstract lines 4-5, Fig 8)**.

It would have been obvious to one of ordinary skill in the art to modify the invention of Wakita, Appleby, Chan, and Fukumochi by including a co-occurrence word extraction step as taught by Sata and using the keyword related presentation step disclosed by Fukumochi to present co-occurrence words for selection such that co-occurrence words are presented to a user such that the user can select one or more co-

occurrence word from the co-occurrence words described in the co-occurrence word table in order to avoid a word of the highest frequency of use being simply adopted as its equivalent in the second language even when there are a plurality of equivalents in the second language, making the translation meaningless or unnatural, as suggested by Sata **(Col 1 lines 40-45).**

Wakita, Appleby, Fukumochi, Chan, and Sata do not specifically mention that if one or more co-occurrence words are selected by the user, the selected one or more co-occurrence words are input as new keywords in the input step, and the text sentence candidate generation step is performed after completion of inputting all keywords, but one skilled in the art at the time of the invention would have known to input the selected words as new keywords since the user is selecting them in the context of entering a word or phrase for translation, and including them would avoid the risks of meaningless or unnatural translations discussed above.

Claim 15 simply combines the salient features of claims 3 and 6, and so is rejected for reasons similar to those of claims 3 and 6.

Claim 16 simply combines the salient features of claims 3 and 7, and so is rejected for reasons similar to those of claims 3 and 7.

Claim 17 simply combines the salient features of claims 10 and 13, and so is rejected for reasons similar to those of claims 10 and 13.

Claim 18 simply combines the salient features of claims 10 and 14, and so is rejected for reasons similar to those of claims 10 and 14.

15. Claims 23 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wakita et al. (2002/0010573) in view of Appleby (2005/0171757), in further view of Chan et al. (6,604,101), in further view of Weise et al. (6,985,851).

Consider claims 23 and 24, Wakita, Appleby, and Chan do not specifically mention the target language keyword-related phrase generation model depends on the type of information used and includes a trigram, a backward trigram, and one or more modified word sequences.

Weise discloses a language model depends on the type of information used and includes a trigram, a backward trigram, and one or more modified word sequences **(Abstract, Fig 4a)**.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Wakita, Appleby, and Chan such that the target language keyword-related phrase generation model described by Appleby depends on the type of information used and includes a trigram, a backward trigram, and one or more modified word sequences as in Weise, in order to avoid inaccurate parses, as suggested by Weise **(Col 1 lines 59-61),** which could result in the wrong translation being generated in the target language.

Conclusion

16. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jesse Pullias whose telephone number is 571/270-5135. The examiner can normally be reached on M-F 9:00 AM - 4:30 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Hudspeth can be reached on 571/272-7843. The fax phone number for the organization where this application or proceeding is assigned is 571/270-6135.

18. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status

information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Jesse Pullias/
Examiner, Art Unit 2626

/Talivaldis Ivars Smits/
Primary Examiner, Art Unit 2626 01/03/2011